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Amendments to the Claims

3. (Currently amended) A distributed gain control circuit (DGCC) comprising:
- an imager signal source including a shutter;
 - a timing circuit for controlling said shutter and the production of signals from said imager signal source;
 - a CDS/VGA system for receiving imager signals from said imager signal source;
 - an analog to digital converter connected to said CDS/VGA system for receiving an amplified imager signal stream from said CDS/VGA system and converting the amplified imager signal stream into digital form;
 - a digital gain circuit connected to said analog to digital converter; and
 - an automatic gain control (AGC) circuit having a gain splitter circuit for receiving gain values which the digital gain circuit have determined and wherein the gain splitter circuit produces distributed gain values from the received gain values for receiving an output digital level from said digital gain circuit for controlling the gain of said CDS/VGA system, said digital and shutter gain circuit.
4. (Original) The DGCC according to claim 3 wherein said AGC circuit is coupled to said timing circuit for controlling the production of signals from said imager signal source.
5. (Currently amended) A method of gain control in an imaging system having a shutter, a digital gain circuit, and a CDS/VGA circuit, including:
- determining a total gain for an imaging system;
 - receiving, by an automatic gain control (AGC) circuit having a gain splitter circuit, the determined total gain;
 - splitting, by the gain splitter circuit, the determined total gain into distributed gain values which at least include a shutter gain, an analog (VGA) gain, and a digital gain; and
 - determining the level of the shutter gain to be applied in the operation of the imaging system;
 - determining the level of the analog (VGA) gain to be applied in the operation of the imaging system; and

determining the level of the digital gain to be applied in the operation of the imaging system.

6. (Original) The method according to claim 5, wherein each gain setting for said imaging system is applied for the duration of a single frame.

7. (Currently amended) The method according to claim 5 including hierarchically adjusting the shutter gain, the analog (VGA) gain, and the digital gain.

8. (Original) The method according to claim 7 wherein the shutter gain has maximum and minimum shutter gain values.

9. (Original) The method according to claim 7 wherein the analog (VGA) gain has maximum and minimum analog gain values.

10. (Currently amended) The method according to claim 7 wherein the a chip gain has a maximum and a minimum gain value.

11. (Original) The method according to claim 7 wherein the digital gain has a maximum and a minimum value.

12. (Original) The method according to claim 8 wherein the analog (VGA) gain and the digital gain remain at a constant level as the shutter gain is varied.

13. (Original) The method according to claim 8 wherein the shutter gain and the analog (VGA) gain remain at a constant level as the digital gain is varied.

14. (Original) The method according to claim 8 wherein the shutter gain and the digital gain remain at a constant level as the analog (VGA) gain is varied.

Claims 15 through 34 (Cancelled).

35. (Previously presented) The method according to claim 12, wherein said constant level is user-settable.

36. (Previously presented) The method according to claim 13, wherein said constant level is user-settable.

37. (Previously presented) The method according to claim 14, wherein said constant level is user-settable.

38. (New) The DGCC according to claim 3 wherein the distributed gain values are split into shutter gain values, analog gain values, and digital gain values.